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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KRECK, JOHN J

ART UNIT	PAPER NUMBER
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3673

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/841,302	ROUFFIGNAC ET AL.
	Examiner	Art Unit
	John Kreck	3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 28 April 2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 4091-4093, 4095-4110, 4112-4123, 4125-4170 and 5396-5408 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 4091-4093, 4095-4110, 4113-4115, 4117-4123, 4125-4164-4166-4170 and 5396-5408 is/are rejected.

7) Claim(s) 4112, 4116, 4165 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11821-23

4) Interview Summary (PTO-413) Paper No(s). _____

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____

DETAILED ACTION

The amendment dated 4/28/03 has been entered.

Claims 4091-4093, 4095-4110, 4112-4123, 4125-4170, and 5396-5408 are pending.

Claim Objections

1. Claim 5400 objected to because of the following informalities: in line 4, after "wherein"; please insert "the". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 4091, 4093, 4098, 4100-4102, 4104, 4107, 4110, 4114, 4115, 4117, 4119, 4121, 4122, 4129, 4154, 4155, 4167, and 5397 are rejected under 35 U.S.C. 102(b) as being anticipated by Camacho, et al. (U.S. Patent number 4,067,390).

Camacho shows a system configured to heat a coal formation comprising a heater in an open wellbore as called for in claim 4091. The Camacho system is clearly capable of maintaining the temperature in a pyrolysis temperature range. Note that Camacho discloses 1000° on col. 7, line 46.

Camacho also shows the electrical heater as called for in claim 4093.

Camacho also shows the overburden casing (17) as called for in claim 4097.

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Camacho also shows the overburden casing disposed in cement (21) as called for in claim 4100.

Camacho also shows the overburden casing and packing material (cement- 21) as called for in claim 4101.

Camacho also shows the overburden casing and packing material (cement- 21) configured to inhibit fluid flow as called for in claim 4102.

Camacho also shows the system configured to transfer heat so that hydrocarbons can be pyrolyzed as called for in claim 4104.

With regards to 5397; the Camacho system is clearly capable of that temperature range.

Regarding independent claim 4107:

Camacho teaches a method of treating a coal formation including the steps of providing heat from one or more heaters disposed within open wellbores in the formation (figure 2) allowing heat to transfer, and producing a mixture (abstract line 2) as called for in claim 4107. Camacho also teaches the newly claimed step of maintaining. The disclosed temperatures of the Camacho process are a pyrolysis temperature range.

Camacho also shows the electrical heater as called for in claim 4110.

Camacho also shows the tube (18) and the providing a substantially flow of fluid (steam) through critical flow orifices (shown in fig 2 near 25) as called for in claim 4115.

Camacho also shows the overburden casing (17) as called for in claim 4117.

Camacho also shows the overburden casing disposed in cement (21) as called for in claim 4119.

Camacho also shows the overburden casing and packing material (cement- 21) configured to inhibit fluid flow as called for in claim 4121.

Camacho also shows the heating to pyrolyze as called for in claim 4122.

With regards to claim 4129; the Camacho reference does not explicitly teach the transferring by conduction; however this is inherent in a solid substance such as coal.

With regards to claims 4154 and 4155; the Camacho reference does not explicitly teach the increasing permeability; however this is inherent in a process of heating coal.

Camacho also shows the heating to a minimum temperature of 270°C as called for in claim 4167.

2. Claims 4091, 4096, 4103, 4107, 4113, 4120, 4146, 4156, 4160, 4161, 4162, 4163, 4164, and 4166 are rejected under 35 U.S.C. 102(b) as being anticipated by Terry (U.S. Patent number 4,093,025).

Terry teaches a system configured to heat a coal formation comprising one or more heaters (10) disposed within one or more open wellbores (see figure 4), wherein the system is configured to allow heat to transfer as called for in claim 4091. The Terry system is clearly capable of maintaining the temperature in a pyrolysis range.

Terry also shows a natural distributed combustor as called for in claim 4096.

Terry also shows the overburden casing and packing material comprising cement at the junction between the open bore and the casing as called for in claim 4103.

Regarding independent claim 4107:

Terry teaches the method of treating a coal formation comprising providing heat from one or more heaters, wherein the heaters are disposed in open wellbores, allowing heat to transfer and producing a mixture as called for in claim 4107. Terry also teaches the newly claimed step of maintaining the temperature in a pyrolysis range.

Terry also shows a natural distributed combustor as called for in claim 4113.

Terry also shows the overburden casing and packing material comprising cement at the junction between the open bore and the casing as called for in claim 4120.

Terry also teaches controlling the pressure as called for in claim 4146.

With regards to claim 4156; the yield of greater than 60% is inherent.

Terry also shows the liquid and gas stream as called for in claim 4160.

Terry also shows the liquid and gas stream, and the aqueous and non-aqueous streams as called for in claim 4161.

Terry also shows the separating H₂S as called for in claim 4162.

Terry also shows the separating CO₂ as called for in claim 4163.

Terry also shows the mixture produced as vapor as called for in claim 4164.

Terry also shows the heater element in the production well as called for in claim

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3. Claims 5400-5403, 5407, 5408 are rejected under 35 U.S.C. 102(b) as being anticipated by Salomonsson (U.S. Patent number 2,914,309).

Salomonsson teaches the steps of providing heat from one or more heaters in open wellbores (see col. 6, lines 1 and 2); one or more of the heaters having a heat output less than 1650kW/m (see col. 3, lines 60-65); allowing heat to transfer; maintaining a temperature in a pyrolysis range (col. 8, line 40); and producing a mixture as called for in claim 5400.

Salomonsson also teaches the selected section as called for in claim 5401.

Salomonsson also teaches the natural distributed combustor as called for in claim 5402.

The Salomonsson process also produces the hydrocarbons (see col. 5, lines 8-34) as called for in claim 5403.

Salomonsson also teaches the temperature range as called for in claim 5407.

The Salomonsson process also results in a temperature increase of less than about 10°C/day (see col. 3, line 29-42) as called for in claim 5408. The heat equation is a well known thermodynamic principle.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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4. Claims 4097, 4099, 4118, 4130-4134, 4137, 4139-4145, and 4147-4149, are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry.

Terry teaches all of the limitations of claims 4091 and 4107, from which these claims depend.

With regards to claim 4097; Terry fails to teach the diameter of the wellbore. It is well known to make such wellbores greater than 5 cm; in order to allow for high volume production; it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Terry method to have included a wellbore diameter of at least 5 cm as called for in claim 4097, in order to allow for high volume production.

With regards to claims 4099 and 4118; Terry fails to teach the steel casing. It is well known to make such casing from steel; because it is durable; it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Terry method to have included a steel casing as called for in claims 4099 and 4118, because it is durable.

With regards to claim 4130; most coals have a thermal conductivity of greater than 5.0 W/m°C; thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have practiced the Terry invention in a coal with a thermal conductivity of greater than 5.0 W/m°C, as called for in claim 4130. The increase is inherent

With regards to claims 4131-4144, 4148, and 4149; the nature of hydrocarbons produced from such heating is highly variable, and dependent upon many factors, not least of which is the characteristics of the coal. The components of the produced

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mixture are deemed to be the results of design variables, including coal characteristics and temperature.

With regards to claim 4145; Terry teaches the ammonia, but fails to teach the fertilizer. It is well known to make fertilizer from ammonia; because it has a high nitrogen content; it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Terry method to have included a production of fertilizer, as called for in claim 4145.

With regards to claim 4147; Terry fails to explicitly teach the pressure greater than 2.0 bar, but teaches that the pressure should be greater than hydrostatic head. It is well known that the hydrostatic head in many coal seams is greater than 2.0 bar; thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Terry invention to have the pressure greater than 2.0 bar as called for in claim 4147.

5. Claims 4092 and 4108 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry in view of Pelofsky (U.S. Patent number 3,882,941).

Terry fails to teach the superposition.

It is well known in the art that maximum production is achieved through superposition of heat from more than one heater. This is shown by Pelofsky (col. 6, lines 6-8). It would have been obvious to one of ordinary skill in the art at the time of the

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invention to have modified the Terry process to have included at least two heaters, and to have superposition of heat pyrolyze hydrocarbons as called for in claims 4092 and 4108; in order to maximize production.

6. Claims 4157-4159, and 5396 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry in view of Van Meurs (U.S. Patent number 4,886,118). Terry fails to explicitly teach the at least 7 heaters; triangular pattern; or repetitive pattern.

Van Meurs teaches that greater numbers of heaters results in improved production. It is apparent that the number of heaters and pattern are largely matters of engineering design. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Terry process to have included at least 7 heaters as called for in claim 4157; in order to improve production; or to have included a triangular pattern as called for in claim 4158; or to have a repetitive pattern as called for in claim 4159; or to have at least 20 heaters as called for in claim 5396, based on formation characteristics.

7. Claims 4157-4159 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camacho in view of Van Meurs (U.S. Patent number 4,886,118). Camacho fails to explicitly teach the at least 7 heaters; triangular pattern; or repetitive pattern.

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Van Meurs teaches that greater numbers of heaters results in improved production. It is apparent that the number of heaters and pattern are largely matters of engineering design. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Camacho process to have included at least 7 heaters as called for in claim 4157; in order to improve production; or to have included a triangular pattern as called for in claim 4158; or to have a repetitive pattern as called for in claim 4159; based on formation characteristics.

8. Claims 4095 and 4112 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry in view of Bennett (U.S. Patent number 3,680,633).

Terry teaches all of the limitations of claims 4091 and 4107; from which these claims depend.

Terry fails to explicitly disclose the flameless distributed combustor.

Bennett teaches that a flameless distributed combustor is used in a similar process in order to initiate in-situ combustion; the Bennett method is disclosed as being efficient at initiating combustion.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Terry method to have included a flameless distributed combustor, as called for in claims 4095 and 4112, and as taught by Bennett, in order to efficiently initiate combustion.

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9. Claims 4105, 4106, 4125, and 4126 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camacho.

Camacho teaches all of the limitations of claims 4091 and 4107, from which these claims depend.

Camacho teaches the desirability of controlling the pressure but fails to teach how the pressure is controlled. The most common way to control pressure is to use valves; thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Camacho system to have included a valve as called for in claim 4105, 4106, 4125, and 4126, in order to control the pressure.

10. Claim 4123 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terry in view of Elkins U.S. Patent number 2,734,579).

The Terry reference fails to teach the controlling the temperature and pressure wherein the temperature is controlled as a function of the pressure or the pressure is controlled as a function of the temperature.

Elkins teaches controlling the pressure in order to lower the temperature (col. 3, line 46); this is done in order to help prevent overheating. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Terry process to have included the temperature is controlled as a function of the pressure or the pressure is controlled as a function of the temperature as called for in claim 4123, and as taught by Elkins, in order to prevent overheating.

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11. Claim 5404 is rejected under 35 U.S.C. 103(a) as being unpatentable over Salomomsson in view of Elkins U.S. Patent number 2,734,579).

The Salomomsson reference fails to teach the controlling the temperature and pressure wherein the temperature is controlled as a function of the pressure or the pressure is controlled as a function of the temperature.

Elkins teaches controlling the pressure in order to lower the temperature (col. 3, line 46); this is done in order to help prevent overheating. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Salomomsson process to have included the temperature is controlled as a function of the pressure or the pressure is controlled as a function of the temperature as called for in claim 5404, and as taught by Elkins, in order to prevent overheating.

12. Claims 4128 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terry in view of Kasevich, et al. (U.S. Patent number 4,457,365).

The Terry reference fails to teach the heating rate. With regards to claim 4128; it is known to heat at rates of less than 10°C per day, as shown by Kasevich (figure 3). It is apparent that this low heating rate is desirable because it results in more uniform heating, and reduces the possibility of hot spots. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Terry method to have included heating at a rate of less than about 10°C per day as called for in claim 4128, in order to achieve more uniform heating. The claim limitations drawn to the heating energy are nothing more than well known thermodynamic equations.

13. Claims 4151, 4168, 4169, and 4170 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gregoli, et al. (U.S. Patent number 6,016,867).

The Terry reference fails to teach the altering pressure to inhibit production of hydrocarbons having carbon numbers greater than about 25. The Gregoli reference teaches that in a similar in-situ processes, it is beneficial to use high pressure to break heavy hydrocarbons. It is well known that carbons having carbon numbers greater than about 25 are considered to be heavy; and impede production because they are dense and viscous. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Terry method to have included altering pressure to inhibit production of hydrocarbons having carbon numbers greater than about 25, as called for in claim 4151, in order to improve production.

With regards to claim 4168; it would have been obvious to one of ordinary skill in the art at the time of the invention to modified the Terry method to have controlled the pressure to be greater than 2.0 bar to inhibit production of hydrocarbons having carbon numbers greater than about 25, as called for in claim 4168, in order to improve production.

With regards to claims 4169-4170; Gregoli teaches the increasing pressure to inhibit production of heavy hydrocarbons; thus also implicitly teaching decreasing pressure to increase heavy hydrocarbons. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Terry method to have included controlling pressure to control production of condensable hydrocarbons

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as called for in claim 4169 or to control the API gravity of hydrocarbons as called for in claim 4170.

14. Claims 4109 is rejected under 35 U.S.C. 103(a) as being unpatentable over Camacho in view of Tsai, et al. (U.S. Patent number 4,299,285)

Camacho fails to teach the maintaining temperature within a range of about 250 to 400°C.

Tsai teaches a method of increasing permeability in order to prepare for in-situ gasification. The Tsai method includes maintaining temperature within a range of about 250 to 400°C.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Camacho method to have included the method of increasing permeability taught by Tsai, and thus to have included maintaining temperature within a range of about 250 to 400°C as called for in claim 4109, in order to improve the in situ gasification process.

Allowable Subject Matter

15. Claims 4116, 4127, 4165, 5405, 5406 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 4150, 4152, 4153, 4135, 4136, 4138, 5398, and 5399 have been identified as including subject matter which is allowable over the prior art.
3. Claims 4091-4093, 4095-4110, 4112-4123, 4125-4170, and 5396-5408 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over copending Application Nos. 09/840,937; 09/841,439; 09/841,288; 09/841,493; 09/841,300; 09/841,432; 09/841,440; 09/841,438; 09/841,445; 09/841,495; and 09/841,639. Although the conflicting claims are not identical, they are not patentably distinct from each other because the differences are obvious. Each of these copending applications has an independent claim which generally corresponds to a claim in the instant application. A table listing the applications and the claims in the instant application which correspond is shown below:

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Copending application	Corresponding claims
09/840,937	4150, 4152, 4153, 5398, 5399, 5405, 5406
09/841,288	4150, 4152, 4153, 5398, 5399, 5405, 5406
09/841,300	4136
09/841,438	4138
09/841,445	4150, 4152, 4153, 5398, 5399, 5405, 5406
09/841,495	4138
09/841,639	4135

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

4. Applicant's arguments filed 4/28/03 have been fully considered but they are not persuasive.
5. With regards to the independent claims, and the pyrolysis temperature range; In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., specific temperatures) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

With regards to the overburden casing; applicant has not pointed out how the claimed overburden casing differs structurally from the casing and cement shown by the reference.

With regards to the critical flow orifices; applicant has not pointed out how the claimed critical flow orifices differs structurally from the perforations shown by the reference.

With regards to the increase in permeability; this is an inherent result of heating the coal. As the coal is pyrolyzed/volatized/degassed; the permeability increases since less solid material remains. See, e.g. Tsai, et al. (U.S. Patent number 4,299,285).

With regards to the yield: since most of the coal is burned; the yield must inherently approach 100%.

With regards to claim 4161; the various streams are clearly shown in figure 1.

With regards to claim 4128; applicant is reminded that the claim does not call for a step of calculating or a step of using a desired heating rate to calculate.

With regards to claims 4151, 4168, 4169, and 4170; applicant's assertions of unexpected results should be supported by evidence. See MPEP 716.02.

With regards to claim 4109; applicant's assertion that the teachings of the references could not be combined are not persuasive. Tsai teaches that an increased permeability can be obtained by treating with hot air; and that this pretreatment improves later production. One of ordinary skill in the art would have found it obvious to pretreat the coal using the Tsai method (thus including the maintaining in a temperature range of 250-400°C) prior to treatment using the Camacho method.

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6. Applicant's further arguments with respect to have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kreck whose telephone number is (703)308-2725. The examiner can normally be reached on M-F 6:00 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on (703)308-2978. The fax phone numbers for the organization where this application or proceeding is assigned are

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(703)872-9326 for regular communications and (703)872-9327 for After Final
communications.

Any inquiry of a general nature or relating to the status of this application or
proceeding should be directed to the receptionist whose telephone number is (703)306-
4177.

JJK
July 16, 2003



DAVID BAGWELL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600